E Ocular emargination filled by a strong swelling; sternal markings forming a quadrilateral without median blotches.
Nitzschia Denny.

EE Ocular emargination without swelling, hardly apparent or entirely lacking; median blotches on sternum.

F Very large; with two 2-pointed appendages on ventral aspect of hind-head; anterior coxae with very long lobe-like appendages.
Ancistrona Westwood.

FF Small or median; without bi-partite appendages of hind-head.
Menopon N.

NOTES ON THE WINTER INSECT FAUNA OF VIGO COUNTY, INDIANA.—V.

BY W. S. BLATCHLEY, INDIANAPOLIS, INDIANA.

COLEOPTERA (Cont.).

A number of beetles belonging to the families Dytiscidae, Gyrinidae and Hydrophilidae, doubtless pass the winter as imagoes,* hibernating in the waters of the deeper pools of ponds and streams, or beneath the mud and drift-wood near their margins. The opportunity did not occur to make a special investigation of such pools, and therefore but two species of water beetles were taken during the winter collecting.

Hydrophilidae.

78, *Berosus striatus* Say. The only specimen taken in the county was found Feb. 26, deeply buried in damp sand, beneath a log on margin of old canal.

79, *Philhydrus cinctus* Say. On two occasions in February from beneath logs close to ponds. Common in summer.

Silphidae.

80, *Silpha surinamensis* Fab. Dec. 18.

81, *S. inequalis* Fab. Jan. 16.

The above were taken on several occasions beneath logs close to carrion. Surinamensis is found only singly or in pairs. Inequalis is gregarious, winters in different stages, and in Indiana is the most abundantly represented species of the family.

82, *Choleva basillaris* Say. One specimen, Dec. 5, from beneath a rail in upland field.

83, *Agathidium sp.?* One Dec. 25. Beneath chunk.

Besides the four species mentioned, two others, *Necrophorus orbicollis*

* Imagoes of the genera Dytiscus and Hydrophilus have been seen by the writer on numerous occasions in early April.

Say and *Silpha noveboracensis* Forst., have been taken on or before April 1st. They doubtless hibernate.

SCYDMAENIDAE.

84, *Scydmaenus sp.?* One, Jan. 6, beneath log in upland clearing.

PSELAPHIDAE.

85, *Ceophyllus monilis* Lec. One, from a large cone-shaped ant's nest. Feb. 28.

86, *Tmesiphorus costalis* Lec. Our most common species of the family. On numerous occasions in winter from beneath logs, usually oak, in sandy upland woods. Gregarious.

87, *Ctenistes piceus* Lec. Dec. 23. Five were found piled up together, on the side of an overturned log, on sandy margin of old canal.

88, *Batrisus sp.?* Dec. 10. One. Beneath log in upland thicket.

STAPHYLINIDAE.

89, *Falagria venustula* Er. Jan. 7.

90, *Aleochara bimaculata* Grav. Jan. 1.

91, *Aleochara sp.?* Dec. 23.

One or two of each of the above were taken on the dates mentioned from beneath logs. *A. bimaculata* is common in fungi in summer; the others are rare at all seasons.

92, *Quedius fulgidus* Fab. Dec. 25. Beneath the bark of red oak (*Quercus rubra* L.) logs.

93, *Staphylinus maculosus* Grav. Dec. 18.

94. *S. tomentosus* Grav. Feb. 6.

95, *S. cinnamopterus* Grav.

Of eight species of this genus known to occur in the county the above three were the only ones taken in winter. *S. cinnamopterus* is the most common of all, and hibernates beneath beech and oak logs; the others, beneath logs and chunks near decaying animal matter. In summer all are found in fungi. *S. vulpinus* Nordm. has been taken on April 1st, and probably hibernates.

96. *Philonthus brunneus* Grav. Dec. 8.

97, *P. baltimorensis* Grav. Dec. 10.

98, *Xantholinus cephalus* Say. Dec. 25.

99. *X. emmesus* Grav. Jan. 6.

Of the above, *P. brunneus* is common, the others scarce. All hibernate beneath logs and rubbish in fence corners which are filled with dead leaves. The only specimen of *X. cephalus* taken was rolled up like a ribbon and did not move until after it had been in the cyanide bottle for some seconds.

100, *Stenus colonus* Er.

101, *S. annularis* Er.

But the two members of this large genus have been recognized in the county. *S. colonus* is very common in winter beneath and between the radical leaves of mullein; *S. annularis* much less common beneath logs and rubbish.

102, *Cryptobium badium* Grav. Feb. 10.

103, *C. bicolor* Grav.

104, *C. pallipes* Grav.

105, *C. latebricola* Nordm.

Of these *C. badium* has been taken but once in winter; the others on numerous occasions beneath bark, chunks and mullein leaves. *C. pallipes* frequents damp, sandy places.

106, *Lathrobium armatum* Say.

107, *L. simplex* Lec. Dec. 10.

108, *L. longiusculum* Gray.

109. *L. collare* Er. Feb. 10.

110, *L. dimidiatum* Say.

These five species represent the genus, as far as known, in Vigo County. *L. armatum* is very common beneath logs in low, damp, sandy places; *L. simplex* rare in winter; and the others frequent beneath bark and logs in upland woods.

111, *Paederus littorarius* Grav. This handsome little Staphylinid winters in numbers beneath and between the leaves of almost every mullein plant.

112, *Sunius longiusculus* Mann. Common in winter beneath chunks. Upland.

113, *Pinophilus latipes* Grav. Singly beneath logs in dry upland woods. Jan. 14.

114, *Tachyporus maculipennis* Lec. Feb. 10.

115, *T. chrysomelinus* Linn.

116, *T. brunneus* Fab.

Of these *T. maculipennis* is scarce. the others common, beneath mullein leaves and rubbish.

117, *Erchomus ventriculus* Say. Dec. 25. Common beneath the close fitting bark of red oak (*Q. rubra*) logs.

118, *Conosoma crassum* Grav. Jan. 21.

119, *Acidota subcarinata* Er. Feb. 23.

The last two species occur in moss and beneath chunks in dense upland woods.

Besides the above-named 31 species of Staphylinidae five additional ones were taken in winter which are as yet undetermined. Seventy-nine members of the family have been collected in the county, and doubtless many small ones occur which have been overlooked. A careful and systematic collecting carried on through several winters would probably show that the large majority of the species are represented in winter by the imago.

Scaphidiidae.

120, *Scaphidium quadriguttatum* Say. Feb. 23.

121, *S. piceum*. Dec. 25.

In winter *S. piceum* is rather frequent; the other very rare, beneath bark of old beech logs.

122, *Scaphisoma convexum* Say. Dec. 29.

Beneath bark of tulip (Liriodendron) stumps and logs.

Phalacridae.

123, *Phalacrus sp.?* Jan. 7.

124, *Olibrus consimilis* Marsh. Dec. 10.

These two species are rare in winter beneath chunks and rails along upland fence rows.